



**ACUSON S Family Ultrasound Systems**  
**HELX Evolution**  
**Designed By You.**  
**Designed For You.**



## Designed to address **today's challenges** in ultrasound imaging

Healthcare professionals today are facing challenges on many levels: demanding caseloads, an expanding diversity of patients, and increasing severity of chronic diseases. At the same time, clinicians are tasked to deliver the highest quality of care at the lowest possible costs.

Experts agree that a conventional one-size-fits-all approach to patient care falls short of addressing these challenges. What healthcare providers need today are advanced technologies and applications that intelligently respond to both patient- and user-specific needs. Tailoring diagnosis and therapies to each patient's individual profile helps to improve clinical, financial and operational outcomes.

The ACUSON S Family of ultrasound systems were built to address today's most difficult cases in ultrasound. They provide technologies and applications that offer personalized ultrasound solutions by delivering new levels of imaging performance, diagnostic confidence, and workflow efficiency.

Worldwide **1.9 billion** adults are **overweight\*** and **600 million** are **obese\***.



Ultrasound professionals are faced with a patient population that is increasingly harder to scan. Imaging at greater depths is needed to provide higher levels of diagnostic confidence.

\*World Health Organization (WHO), 2014

Globally, **liver cirrhosis** has increased by **20 percent** in the last 10 years.\*\*



Millions of people are at risk of developing liver disease from obesity, alcohol abuse, and Hepatitis, however, patients usually show no symptoms until the very late stages. Using ultrasounds as a non-invasive test for liver disease can help assess liver tissue stiffness within minutes.

\*\*World Health Organization (WHO), 2010

**Liver biopsies** are costly and carry potential **complications**.



Non-invasive technologies, such as shear wave elastography, produce instant results and potentially reduce healthcare costs by avoiding possible complications from infections caused by interventional procedures.\*\*\*

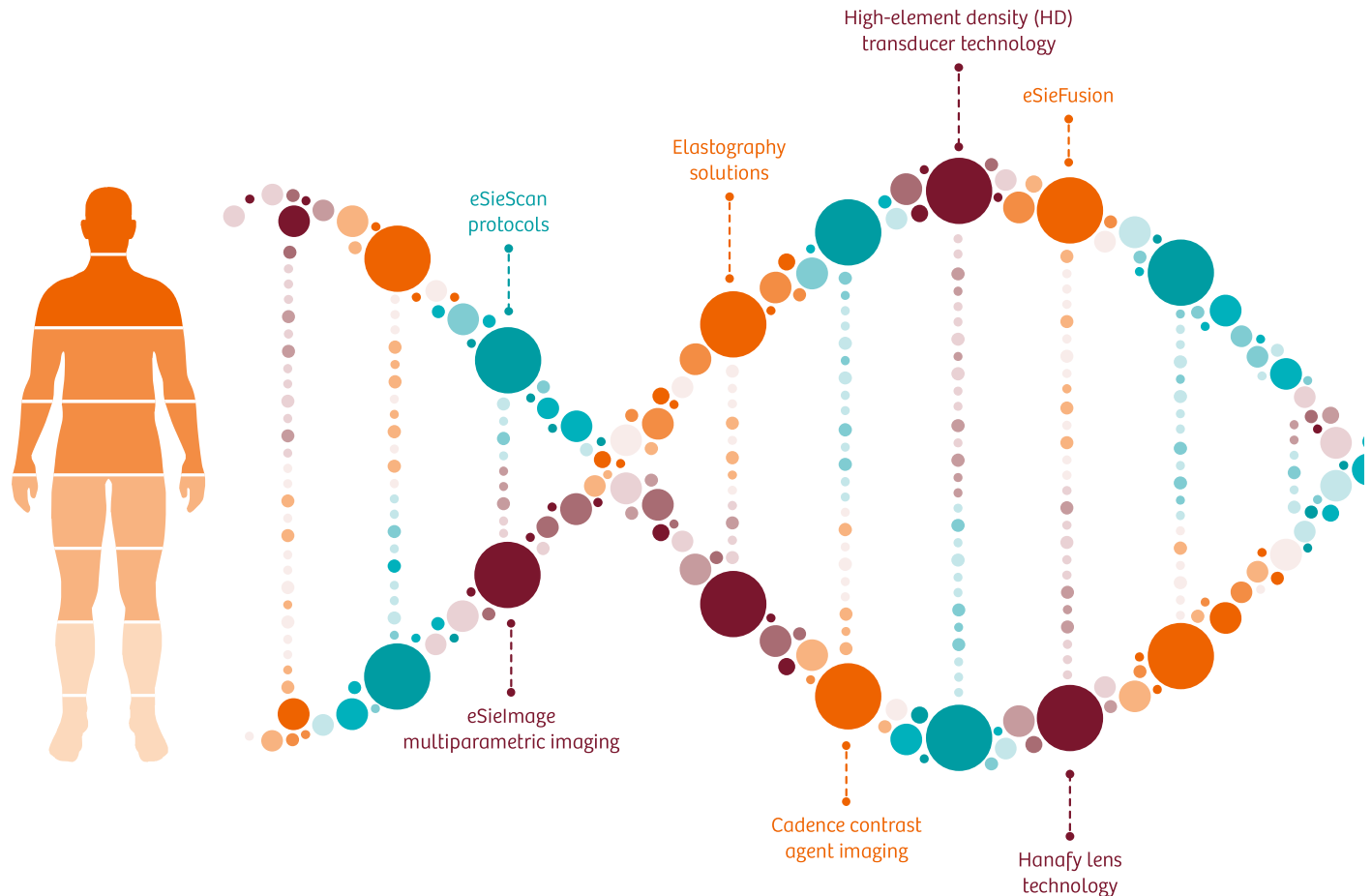
\*\*\*Franciscus, Alan, 2014. Hepatitis C Support Project, [hcvadvocate.org/hepatitis/factsheets\\_pdf/biopsy.pdf](http://hcvadvocate.org/hepatitis/factsheets_pdf/biopsy.pdf)

# See more, know more, do more – Powered by HELX

With patient-centric technology and applications at the core of its DNA, the ACUSON S Family systems offer the most advanced imaging performance ever.

They offer one of the widest portfolios of advanced applications in the industry that enables clinicians to personalize their diagnostic approach to each patient's specific needs.

Unique knowledge-based workflow solutions streamline processes and improve exam consistency and quality of care. Clinical and operational outcomes are further enhanced with intelligent service solutions that optimize system usability and performance.



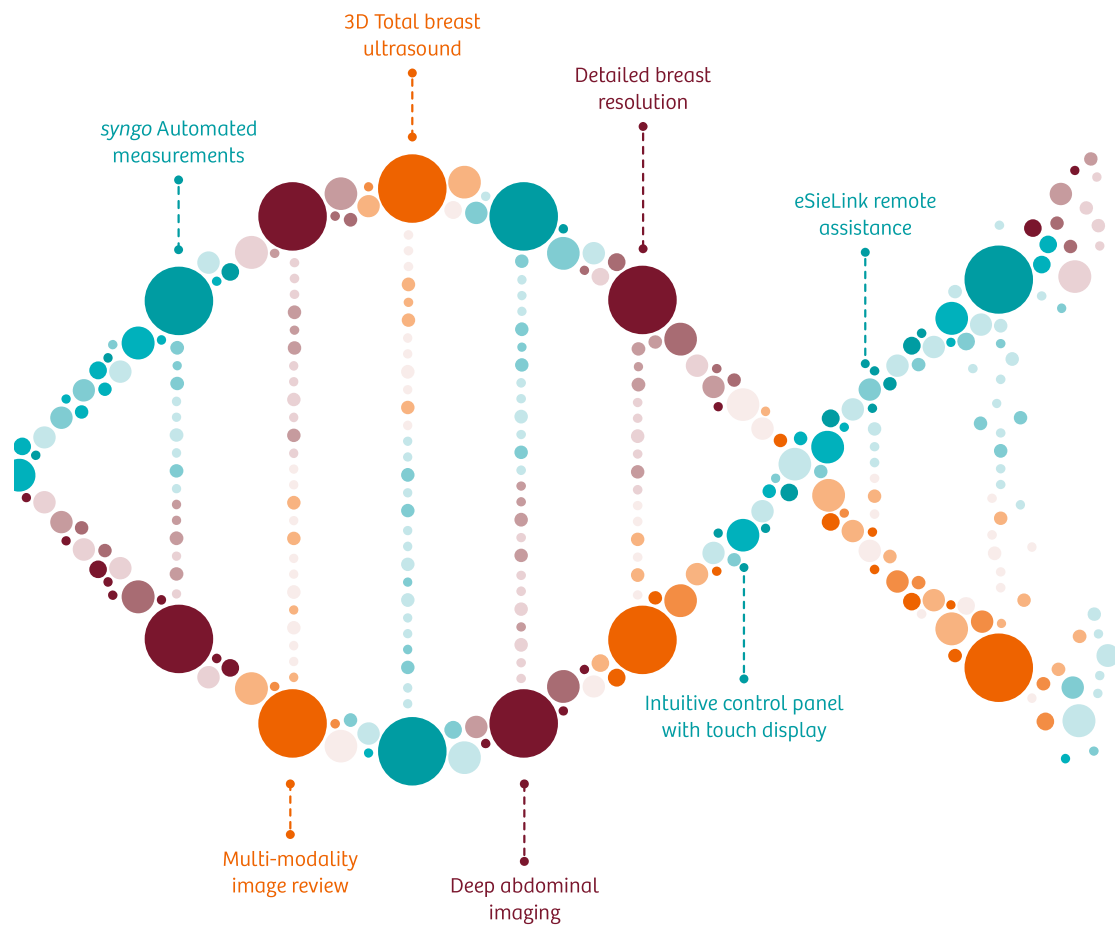
## See more – HELX image formation

Improve your diagnostic confidence with beautiful images featuring exquisite detail and contrast resolution.



## Know more – HELX advanced applications

Expand your clinical information with advanced imaging technologies that improve patient outcomes.



**Do more – HELX knowledge-based workflow**

Protect your investment with upgradeable, easy-to-use ultrasound systems that address all your needs.



# Designed to see more

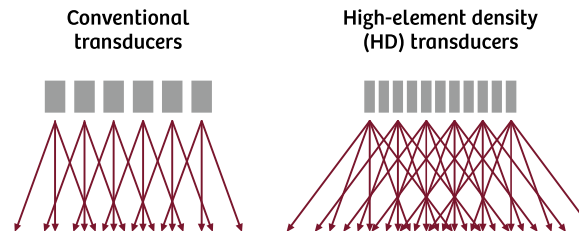


The unique SieStream HD architecture of the ACUSON S Family ultrasound machines works to provide new levels of diagnostic information. Complex processing algorithms double pixel density to produce unparalleled signal fidelity. From transducer to display, advanced HD technologies have been carefully optimized. The result: beautiful, uniform images down to the pixel level that deliver excellent images – including at depth – to advance your diagnostic confidence.

## HD Transducer Technology

The unique, fine-pitched high-element density (HD) technology of ACUSON S Family HELX Evolution transducers delivers excellent image clarity and penetration. This improves exam workflow and imaging performance.

HD transducers feature innovative ergonomic palmar or ridged grips to promote fine motion control, supporting delicate hand movements and reducing operator fatigue.



### High-density (HD) element transducers

- enable beam steering at greater angles to improve detail and contrast resolution
- achieve greater border definition
- improve image quality and color sensitivity





SieScope panoramic imaging allows you to extend your imaging view as shown in this power Doppler image of the radial artery using the 9L4 transducer.



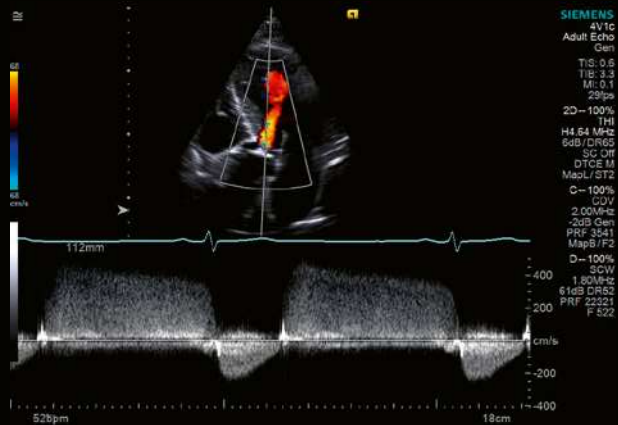
The 8C3 HD transducer provides high-frequency detail resolution for superior resolution. It reduces noise and balances gain with continuous frame-by-frame image optimization using eSiImage optimization.\*



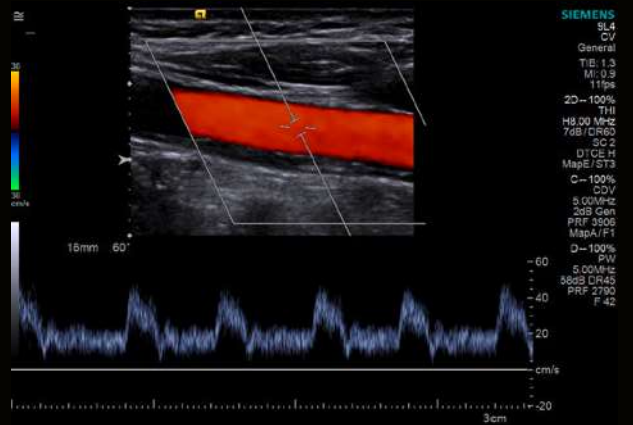
The 18L6 HD linear transducer provides high-frequency resolution for stunning detail even at depth. The wide field of view in the above image allows you to see more visualizing this testicular epididymo-orchitis.



Beautifully visualized second-trimester fetus using Amnioscopic Rendering with the 7CF1 transducer.



Exquisite detail resolution in this 4-chamber view of the heart, using the 4V1c transducer for shared service operation.



Excellent blood flow visualization made possible with superb color Doppler sensitivity using the 9L4 linear transducer.

\*Not available on the ACUSON S1000 system.

# Designed to know more



The powerful ultrasound engine that drives the ACUSON S Family ultrasound systems is the backbone for advanced clinical applications and technologies. They provide healthcare professionals with clinical information not available on conventional ultrasound systems.

HELX advanced applications allow users to personalize the diagnostic pathway to a patient's individual condition. This unique patient-centric approach to diagnosis leverages the comprehensive advanced applications toolbox offered by the ACUSON S Family ultrasound systems – from quantification and characterization of tissue to interventional procedures.

Patient outcome and care are further enhanced with reproducible and quantifiable results.

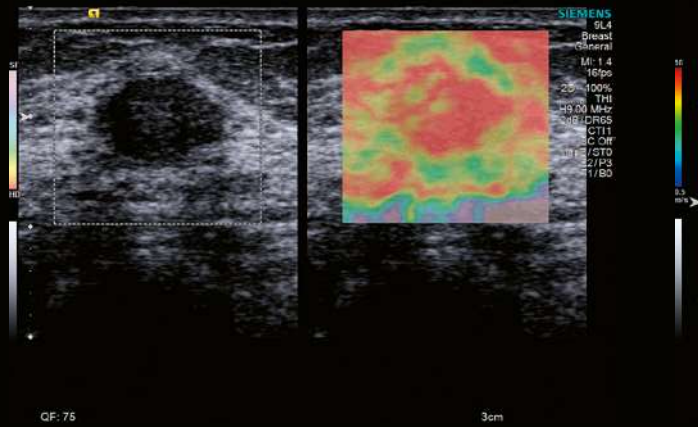


Tissue characterization using shear wave elastography imaging can improve diagnostic results while reducing costs.



The ACUSON S2000 Automated Breast Volume Scanner (ABVS) helps to identify lesions efficiently. Its automated operation provides consistent, reproducible, operator-independent results with high-resolution full-field views of the entire breast.





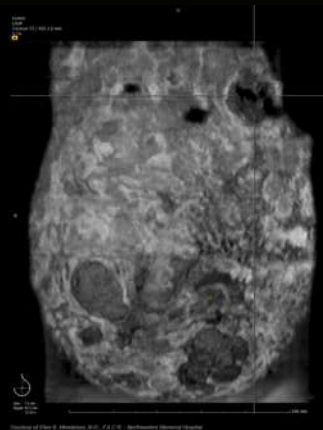
eSie Touch elasticity imaging delivers additional clinical information to improve diagnostic confidence. Stiff fibroadenoma displayed in red using the 9L4 transducer.



Large stiff spiculated breast mass depicted with Virtual Touch IQ shear-wave elastography. Placing ROIs within the image helps to gain quantitative tissue stiffness assessment within the lesion.\*



Liver tissue stiffness assessment using Virtual Touch quantification shear wave elastography. Based on Acoustic Radiation Force Impulse (ARFI) imaging, this unique application may potentially reduce biopsies for liver patients.\*



Coronal view of the breast using the ABVS on the ACUSON S2000.



eSieFusion imaging of a shoulder AC joint integrated into an MRI dataset using the 9L4 transducer.\*\*



Improved near-field and detail resolution in tumor vascular analysis for this liver metastasis using Cadence contrast harmonic imaging with the 6C1 HD transducer.\*

\*Not available on the ACUSON S1000 system.  
\*\* Available on the ACUSON S3000 system.

# Designed to do more



Your reputation as a healthcare provider and your financial success rely on best-in-class staff expertise, exceptional system performance and security as well as seamless clinical workflows.

Designed to adapt to the highest standards of care, the ACUSON S Family HELX Evolution provides a new solution to increase patient outcomes, improve standardization through eSieScan protocols and increase process efficiency with simplified workflow solutions.

Compliance to the latest technical advancements lets you rest assured that the equipment you invest in today will be up-to-date and ready to integrate the most advanced technologies for years to come, allowing you to manage costs without compromising the quality of care.

## eSieLink Remote Assistance Technology

A new service tool for your ultrasound systems, eSieLink™ remote assistance technology supports your workflow staff with fast answers to technical and clinical questions. Secure remote desktop sharing allows them to communicate in real-time with technical experts from Siemens Healthineers to resolve issues right away and to receive additional training support. eSieLink helps to improve system uptime and promotes seamless clinical workflows.



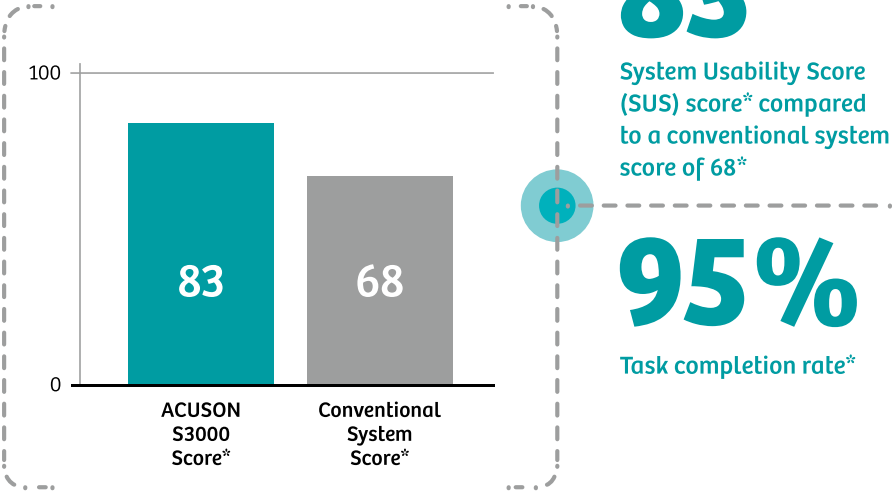


## macadamian

The overall usability of ultrasound systems determines how well advanced technologies and diagnostic tools perform to expand the clinical capabilities of healthcare professionals. The ACUSON S3000, HELX Evolution was evaluated by an independent user experience design and development company in terms of user performance and user satisfaction. With a system usability score (SUS) of 83, the ACUSON S3000 scored higher compared to conventional ultrasound systems that participated in the test.\*

More information: [macadamian.com](http://macadamian.com)

### System Usability Score (SUS)



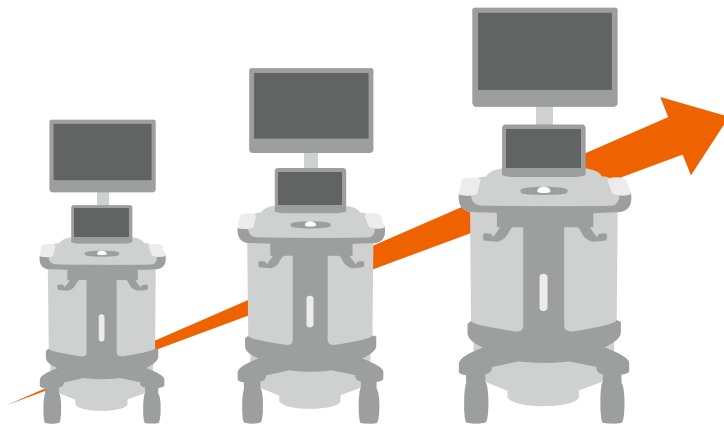
\*Macadamian Usability Test Study using the ACUSON S3000, HELX Evolution with Touch Control. Study result data on file. More information also available at [info@macadamian.com](mailto:info@macadamian.com).

# Designed for upgradeability

The ACUSON S Family HELX Evolution is built on innovation and the drive for excellence, smarter imaging and premium performance.

The platform architecture of the systems has been designed for comprehensive upgradeability and maximum flexibility offering a solution tailored to a wide variety of clinical environments and the needs of heterogeneous patient populations.

The SieStream HD flexible software and hardware architecture is powered by Microsoft® Windows® 7. This supports upgradeability and access to interchangeable transducers and applications to provide comprehensive investment protection.



## ACUSON S1000



### Exceptional Value

Outstanding image quality and intelligent workflow technologies designed to confidently meet your daily imaging needs.



**ACUSON  
S2000**

**Advanced Technology**

A complete portfolio of intuitive imaging technologies, including 3D Total Breast Ultrasound, allows you to deliver first-class care to a wide variety of patients.



**ACUSON  
S3000**

**Expert Intervention**

Industry-leading image analysis tools and intuitive workflow combine to deliver exceptional performance in a broad range of specialties, including Interventional Radiology.

# Designed for system and data security

To ensure highest security of your patient data and other sensitive information, the ACUSON S Family of ultrasound systems uses the latest McAfee® Embedded Security solution for the protection against advanced persistent threats (APT), viruses, malware and other executing software.

An additional layer of security is provided by the eSieCrypt Data Encryption option, which provides an encrypted hard drive to protect your data from security breaches.

Industry-leading application control and change control technology ensures that only trusted applications are allowed to be used on the systems.

The optional *syngo*® Security Package manages system access and ensures safe communication inside and outside of your network.

# Transducers to suit your needs



**4C1**  
Curved array  
Abdomen, Renal, Gynecology,  
OB, Fetal Echo, Pelvis



**9EVF4**  
Curved array  
(volume, endovaginal)  
Gynecology, OB, Fetal Echo,  
Neonatal Head



**14L5**  
Linear array  
Cardiovascular, Thyroid, Breast,  
Vascular, Musculoskeletal,  
Penile, Testis, Digital



**4P1**  
Phased array  
Abdomen, Renal, Gynecology,  
OB, Adult Echo, Fetal Echo,  
Pediatric Echo, Pelvis,  
Transcranial Doppler



**6C1 HD\***  
Curved array  
Abdomen, Renal, Gynecology,  
OB, Fetal Echo, Pelvis



**EV8C4**  
Curved array  
(endovaginal)  
Gynecology, OB



**14L5 SP**  
Linear array (hockey stick)  
Cardiovascular, Thyroid, Breast,  
Musculoskeletal, Penile, Testis,  
Digital, Intraoperative Vascular,  
Intraoperative Abdominal



**8V3**  
Phased array (vector)  
Fetal Echo, Pediatrics,  
Pediatric Echo, Neonatal  
Echo, Neonatal Head



**6C2**  
Curved array  
Abdomen, Renal, Gynecology,  
OB, Vascular, Fetal Echo,  
Pediatrics, Pelvis



**MC9-4**  
Curved array  
(endovaginal)  
Gynecology, OB, Prostate,  
Neonatal Head



**18L6 HD**  
Linear array  
Cardiovascular, Thyroid, Breast,  
Vascular, Musculoskeletal,  
Penile, Testis, Digital



**10V4**  
Phased array (vector)  
Renal, Pediatrics, Pediatric  
Echo, Pelvis, Neonatal Echo,  
Neonatal Head



**8C3 HD\***  
Curved array  
Gynecology, OB, Fetal Echo,  
Pediatrics



**9L4**  
Linear array  
Cardiovascular, Thyroid, Breast,  
Gynecology, OB, Vascular,  
Fetal Echo, Musculoskeletal,  
Pediatrics, Pediatric Hip,  
Pelvis, Penile, Testis, Digital



**4V1**  
Phased array (vector)  
Abdomen, Renal, Gynecology,  
OB, Fetal Echo, Pelvis



**V5M**  
Phased array (TEE)  
TEE



**7CF1**  
Curved array (volume)  
Abdomen, Renal, Gynecology,  
OB, Fetal Echo, Pelvis



**12L4**  
Linear array  
Cardiovascular, Thyroid, Breast,  
Gynecology, OB, Vascular,  
Fetal Echo, Musculoskeletal,  
Pediatrics, Pediatric Hip,  
Pelvis, Penile, Testis, Digital



**4V1c**  
Phased array (vector)  
Abdomen, Renal, Adult Echo,  
Pediatric Echo, Transcranial  
Doppler



**V7M**  
Phased array (TEE)  
TEE

\*Not available on the ACUSON S1000 system.

# Why Siemens Healthineers?

At Siemens Healthineers, we enable healthcare providers to achieve better outcomes at lower costs by expanding precision medicine, transforming care delivery, improving patient experience, and digitalizing healthcare.

Healthcare providers around the world have long relied upon our engineering excellence – leading-edge, high-quality medical technologies across a broad portfolio. Our technologies touch an estimated 5 million patients\* globally every day. At the same time, they help hospital departments to continuously improve their clinical, operational, and financial outcomes.

We now consolidate this unprecedented volume of data and insights and turn them into pioneering enterprise and digital health services. With those, we maximize opportunities and share risks of your entire health system.

Partnerships are built on people. With Siemens Healthineers there is no team more committed and more connected than we are to realize your success together.

\*Siemens AG, "Sustainable healthcare strategy – Indicators in fiscal 2014", page 3-4



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